Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method comprising:

receiving a first program unit in a parallel computing environment, the first program unit including a reduction operation associated with a set of variables;

translating the first program unit into a second program unit, the second program unit including ~~to associate the reduction operation with~~ a set of one or more instructions ~~operative~~ to partition the reduction operation between a plurality of threads including at least two threads <u>and to reference a third program unit</u>; and

translating the first program unit into [[a]] <u>the</u> third program unit, the third program unit ~~to associate the reduction operation with~~ <u>including</u> a set of one or more instructions ~~operative~~ <u>that encapsulate the reduction operation</u> to perform an algebraic operation on the variables.

Claim 2 (cancel)

Claim 3 (currently amended): The method of claim 1 further comprising reducing the <u>set of</u> variables logarithmically.

Claims 4 – 5 (cancel)

Claim 6 (original):   The method of claim 1 further comprising associating the plurality of threads each with a unique portion of the set of variables.

Claim 7 (original):   The method of claim 6 further comprising combining, in part, the variables associated with the plurality of threads in a pair-wise reduction operation.

Claim 8 (currently amended): An apparatus comprising:

a memory including a shared memory location;

a translation unit coupled with the memory, the translation unit to translate a first program unit including a reduction operation associated with a set of at least two variables into a second program unit, the second program unit ~~to associate the reduction operation with one or more instructions operative~~ to partition the reduction operation between a plurality of threads

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including at least two threads <u>and to reference a third program unit</u>, the translation unit to also translate the first program unit into [[a]] <u>the</u> third program unit, the third program unit ~~to~~ ~~associate the reduction operation with a set of one or more instructions operative~~ <u>to encapsulate the reduction operation</u> to perform an algebraic operation on the variables;

a compiler unit coupled with the translation unit and the memory, the compiler unit to compile the second program unit and the third program unit; and

a linker unit coupled with the compiler unit and the memory, the linker unit to link the compiled second program unit and the compiled third program unit with a library.

Claim 9 (cancel)

Claim 10 (currently amended):   The apparatus of claim 8 wherein the variables in the set of variables are each uniquely associated with the plurality of threads and the library includes instructions ~~operative~~ to combine, in part, the variables associated with the plurality of threads.

Claim 11 (currently amended):   The apparatus of claim 10 wherein the library includes instructions ~~operative~~ to combine, in part, the variables in a pair-wise reduction.

Claim 12 (original):   The apparatus of claim 8 further comprising a set of one or more processors to host the plurality of threads, the plurality of threads to execute instructions associated with the second program unit.

Claim 13 (currently amended):   The apparatus of claim 8 wherein the ~~second~~ <u>third</u> program unit includes a callback routine and the callback routine is associated with instructions operative to perform [[an]] <u>the</u> algebraic operation on at least two variables in the set of variables.

Claim 14 (original):   The apparatus of claim 13 wherein the library is operative to call the callback routine to perform, in part, a reduction on at least two variables in the set of variables.

Claim 15 (currently amended):   A machine-readable medium that provides instructions, that when executed by a set of one or more processors, enable the set of processors to perform ~~operations~~ <u>a method</u> comprising:

receiving a first program unit in a parallel computing environment, the first program unit including a reduction operation associated with a set of variables;

translating the first program unit into a second program unit, the second program unit including ~~to associate the reduction operation with~~ a set of one or more instructions ~~operative~~ to partition the reduction operation between a plurality of threads including at least two threads and to reference a third program unit; and

translating the first program unit into [[a]] the third program unit, the third program unit ~~to associate the reduction operation with~~ including a set of one or more instructions ~~operative~~ that encapsulate the reduction operation to perform an algebraic operation on the variables.

Claims 16 – 17 (cancel)

Claim 18 (currently amended): The machine-readable medium of claim 15 wherein the method further ~~comprising~~ comprises ~~instructions for~~ reducing the variables, in part, logarithmically.

Claim 19 (cancel)

Claim 20 (currently amended): The machine-readable medium of claim 15 wherein the instructions cause the second program unit to utilize, in part, the third program unit to perform [[a]] the reduction operation on the set of variables.

Claim 21 (new): The method of claim 1, further comprising performing a plurality of reduction operations in the third program unit.

Claim 22 (new): The method of claim 1, further comprising performing a vector reduction operation in the third program unit via a N-dimension loop in the third program unit.

Claim 23 (new): The method of claim 1, further comprising using a run-time library to implement the reduction operation.

Claim 24 (new): The apparatus of claim 8, wherein the third program unit is to perform a plurality of vector operations.

Claim 25 (new): The apparatus of claim 8, wherein the third program unit is to perform a vector reduction operation via a N-dimension loop.

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Claim 26 (new): The apparatus of claim 8, wherein the third program unit is to perform the algebraic operation using the library.